

Ethno Medicinal Plants Used by the Tharu and Magar Communities of Rupandehi District, Western Nepal

Anant Gopal Singh^{1*}, M.P. Panthi¹ and D.D. Tewari²

¹Department of Botany Butwal Multiple Campus Tribhuvan University Nepal

²Departments of Botany, M.L.K. (P.G.) College, Balrampur

Article Info	Abstract
Article History <i>Received</i> : 07-03-2011 <i>Revised</i> : 07-04-2011 <i>Accepted</i> : 08-04-2011	<p>The present research seeks to explore the information of medicinal plants used by local people of Rupandehi district for primary healthcare. Local healers were interviewed regarding the detail uses of plants. A rich and unique diversity of 74 ethno medicinal plant species belonging to 45 families under 64 genera were documented. The use of plants In Rupandehi is an old tradition and the exploration of such unique cultures should be completed thoroughly so that the oral traditions are not lost forever. Immediate conservation and management approaches of valuable medicinal plants with the involvement of local indigenous people of Rupandehi district will encourage the sustainable conservation of both biological and cultural diversity</p>
*Corresponding Author <i>Tel</i> : +9779847035757	
<i>Email:</i> agsingh26@gmail.com	
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Introduction

The interactions between plants and people have been established along with the evolution of human beings. People are using plant or plant product since time immemorial and trying continuously to exploit it by modifying its physical and genetical characters according to their need. Countries like Nepal and India have been using crude plants as medicine since Vedic period. A major part of the total population in developing countries still use traditional folk medicine obtained from plant resources [5, 11]. Medicinal plants are gaining popularity because of several perceived advantages such as fewer side effects and better patient compliance [1]. In Nepal, because of the rural nature of the country, modern health services and other organized systems of traditional medicine are not available to the bulk of the population. Nepal is a multiethnic and multilingual country and has more than 60 different ethnic groups speaking about 75 languages [3; 10]. Indigenous knowledge about the use of plants as medicine remains the foundation of primary healthcare in most of the remote parts of Nepal. Traditional botanical knowledge of the indigenous communities relating to uses and management of wild plant resources is extensive [4]. Ethnobotanical information remains endemic to certain ethnic groups in Nepal due to lack of communication between the scientific community and indigenous people. Therefore, this present research seeks to explore indigenous knowledge regarding medicinal plants of Rupandehi.

Study area

Rupandehi district is situated in the Western Development Region of Nepal between 27° 20'00" to 27° 47'25" N latitude and 83°12'16" to 83°38'7" E longitude with an area of 1360 sq kilometers [2]. The altitude of this district ranges in between 100 meters to 1219 meters above the sea level. The average temperature ranges in between 8.75° C to 42.4° C and average annual rain fall is 1391mm. It is

surrounded by Nawalparasi district from east, Kapilwastu district from west, hilly district of Palpa from north and Uttar Pradesh of India from south. The east, west and north sides of the district have high potentiality of plants of ethnobotanical importance like medicinal plants. Hospital and healthcare facilities are poor in north and west sides of the district so inhabitants of this part basically depend on local medicinal plants and traditional system of treatment of common diseases. Brahmin, Magar, Tharu, Muslim, Yadav, Chettry, Kewat, Chamar, Gurung, Newar, Kami, Teli, Kurmi, Koiri, Damai, Sonar, Thakuri are the major communities living in the district. In above mentioned casts Tharu and Magar communities have traditional knowledge of medicine.

Materials and Methods

The study area was surveyed in different season during March-April of 2009 to March-April 2010 for the collection of ethnomedicinal information. The information was gathered by direct field observation and interviews with knowledgeable locals. The data were verified in different areas of the surrounding and ethnobotanical information was considered valid if at least five informants made similar comments. Herbarium specimens were collected and identified with the help of standard literatures [9] and the nomenclature of the identified species follows [6, 7 and 8]. A set of herbarium was made for each collection. These herbariums have been deposited in the department of Botany, Butwal Multiple Campus, Tribhuvan University for further study.

Results and Discussion

The results of the present study are presented below with alphabetical arrangement of plant scientific name followed by family local name and parts used in medicine and mode of preparation of medicine.

Acacia catechu (L.F.) Willd., Mimosaceae (*Khayar*): Powdered bark is taken along with hot water on an empty stomach for diarrhea and dysentery. Wood is boiled and its decoction is drunk in colic pain, pain in chest, bronchitis and pulmonary tuberculosis.

Acacia nilotica (L.) Willd. ex Del., Mimosaceae (*Babool*): Bark decoction is used in expelling parasitic worm from intestine, leucorrhoea, diarrhea and dysentery. Soft stem and their braches are used as toothbrush to cure various diseases of teeth and gums.

Achyranthus aspera L., Achyranthaceae: (*Datiwan*) Juice of entire plants is used to cure pneumonia, kidney stones and infections on urinary tract. Powdered seeds are given in bleeding piles and as brain tonic. Leaf juice is used orally along with a pinch of common salt in stomachache, piles and bronchitis.

Acorus calamus L., Araceae (*Bojho*) Chewing of root and rhizome cure bronchitis, tooth problems and headache.

Aegel marmelos (L.) Correa, Rutaceae (Bel): Fruit juice is used to control diarrhea dysentery and the root juice is used in fever and vomiting.

Ageratum conyzoides L., Asteraceae (*Gandhejhar*): Leaf juice and leaf paste are applied on skin burns, cuts, boils and muscular pain. Decoction of leaves is antiseptic used in cure of cancer and piles

Allium cepa L., Alliaceae (Pyaz): Warm leaf juice is used in whooping cough. Bulb is used as vegetable. Juice of bulb is used in eczema and rheumatic pain.

Allium sativum L., Alliaceae (Lashun): Bulblets boiled in mustard oil and massaged over body it relieves from pain. Oral use of 2-3 bulblets early in the morning on empty stomach reduces gastric problems.

Aloe vera (L.) Burm. f., Liliaceae (Ghiu kumari): Leaf juice or latex of the plant is used in burning wounds and internal inflammations.

Amaranthus spinosa L., Amaranthaceae (*Banlude*): Tender shoots are used as vegetable. Decoction of root is given in cold, cough and gonorrhea.

Anans comosus L., Bromeliaceae (*Bhuin Katahar*): Fresh juice of ripe fruit work as blood purifier and cure indigestion problem.

Artemisia nilagarica (Cl) Pamp, Asteraceae (Pati): Decoction of whole plant parts are used as antispasmodic, antiseptic, asthma, analgesic and vermifuge. Juice of leaf is put in ear complaints.

Artocarpus heterophyllus Lam., Moraceae (Katahar): Root decoction is given in asthma, stomach complaints and diarrhea. The past of latex of fruit is applied on swelling part of scrotum.

Argemone mexicana L. Papveraceae (Bharbhandha, Satyanaasi): Juice of leaves is useful in cough, wounds, ulcers and skin diseases.

Asparagus racemosus Willd., Asparagaceae (Kurilo): Tender shoots are used as vegetable. Infusion of fruit and roots are used to cure bleeding from nose, urine and also cure diarrhea, dysentery, gastric, gonorrhea, headache and stomachache.

Azadirachta indica A.Juss, Meliaceae (Neem): Chewing of 3-4 leaves are useful in fever and feeling of higher level of heat in side the body. It is also used as blood purifier.

Young shoot are used as toothbrush which cure toothache and make strong gums and teeth. Oil extracted from seeds is used anthelmentitic.

Bauhinia variegata L., Caesalpinaceae (*Koiralo*): Decoction of bark, flowers and root are used to cure diarrhea, dysentery and indigestion. Leaf pastes are used in skin diseases. Tender leaves and flowers are used as vegetable.

Boerrhavia diffusa L., Nyctagenaceae (Punarnava): Tender shoots and leaves are used as vegetable. Decoction of leaf and tender shoots along with sugar candy or common salt are given to cure stomachache, anemia, whooping cough, asthma, arthritis, piles jaundice etc.

Bombax ceiba L., Bombaceae (Simal): Bark decoction is used to cure liver disease, tumors, flatulence and colic pain. Decoction of flowers is given in dysentery and stomach troubles.

Cassia fistula L., Caesalpinaceae (Rajbrikshya, Amaltash): Root juice is applied on skin disease and gonorrhea. Fruit pulp is used to cure jaundice, inflammation in urine, fever, heart disease, headache, diarrhea, constipation, ulcers, arthritis, bronchitis and tuberculosis. Juice of seeds is given to regulate the stop urine.

Calotropis gigantea (L.) Dryand., Asclepeadaceae (*Aank*): One full tea spoon cow ghee put over the leaf and warmed for few seconds. The warmed leaf bandage on chest of children to relief from bronchitis. Latex paste is applied over the skin of fractured parts of the bone.

Cannabis sativa L., Cannabaceae (Bhang): Decoction of aerial parts along with sugar candy is useful in bronchitis, gonorrhea, piles and cough. Leaf juice work as appetizer

Cassia tora L., Caesalpinaceae (Charkor): Paste of seed is used in all types of skin diseases. Powdered seeds are used orally along with mild hot water in arthritis.

Catharanthus roseus (L.) G. Don, Apocyanaceae (Sadaabahar): Juice of leaves is useful in skin diseases. Petals of flower are used to control sugar level in blood.

Centella asiatica (L.) Urban, Apiaceae (Ghodtapre): Leaf juice is taken orally in the morning for its alleged cooling property to body and stomach. Decoction of whole plant parts along with sugar candy is useful in jaundice.

Chenopodium album L., Chenopodiaceae (Bethe): Tender shoots are used as vegetable. Leaf and seeds are useful in urine complaints and skin diseases.

Cinnamomum tamala (Buch-Ham.) Nees & Eberm, Lauraceae (Tejpat): Leaf infusion is used to control diarrhea and colic pain. Bark and leaf powder used as stimulant control digestive disorders, nausea and vomiting.

Clerodendrum viscosum Vent., Verbenaceae (Bhait): Decoction of root is given orally for blood dysentery. Leaf juice is applied on the body to kill ectoparasite.

Coriander sativum L., Apiaceae (Dhaniya): Green leaf juice is used for digestive aid and to treat stomach disorders. Powdered seeds are orally used along with water as antidiabetic substance.

Cuscuta reflexa Roxb., Convolvulaceae (Akashbeli): Plant decoction is given orally for jaundice. Seed powder is given in ulcers.

Cynodon dactylon (L.) Pers., Poaceae (Dubo): Paste of young and tender shoots are used for healing cuts and

wounds. Juice of leaves is dropped inside the nostrils to stop nose bleeding.

Dalbergia sissoo, Roxb. ex Dc., Papilionaceae (Sisoo): Chewing of young leaves early in the morning on an empty stomach for feeling of higher level of heat inside the body. Decoction of leaves along with sugar candy is used to cure digestive problems, gonorrhea and expels worms of intestine.

Datura stramonium L., Solanaceae (Dhatura): Warm leaf bandage relief pain from inflammatory swellings. Juice of leaves is used for epilepsy. Seed powder is useful in stomachache, toothache and earache.

Eclipta prostrata (L.) L., Asteraceae (Bhringraaj): Plant juice is applied over wounds and cuts as antiseptic. Entire plant decoction is good tonic given in liver and spleen enlargement. Plant juice is also used as an important ingredient in ayurvedic hair oil.

Eugenia jambolona (L.) Alston, Myrtaceae (Jamuno): Bark decoction is given orally in diarrhea, dysentery, gout, syphilis and colic complaints. Fruits have good source of iron so control anemia and also used to control sugar level in blood.

Euphorbia royleana, Boiss., Euphorbiaceae (Sihundisinghe): Latex is used for stomachic disorders. Latex massaged around navel when the stomach starts to pain. Warm leaf juice is used to cure bronchitis and pneumonia.

Ficus benghalensis L. Moraceae (Bar): Bark decoction is given in dysentery, diarrhea, leucorrhea and in reducing blood sugar. Milky juice is given in toothache.

Ficus religiosa L., Moraceae (Peepal): Decoction of bark is used in rheumatic pain. Paste of bark, leaf and young shoots are used to control bleeding from cuts and wounds.

Hollarrhena pubescens (Buch-Ham.) wall ex. G. Don, Apocyanaceae (Indrajou, Dudhkoria): Decoction of root bark is orally used in dysentery with bloody stools. Bark paste is applied for rheumatic inflammation. Leaves are used in chronic bronchitis. Infusion of flowers and seeds are useful in diarrhea and intestinal worms.

Justica adhatoda L., Acanthaceae (Asuro): Leaf juice mixed in water and sugar candy and given to stop bloody stool. Expectorant of leaves of Asuro are used to treat cough, chronic bronchitis, asthma and rheumatism. Paste of root is bandage over dislocated bones.

Lagenaria siceraria L., Cucurbitaceae (Lauka): Fruit is used as vegetable. Seed juice is used for the cure of chronic cough.

Lawsonia inermis L., Lythraceae (Mehandi): Leaf decoction mixed in honey and used to cure back bone pain or menstrual problems and disorders.

Leucas aspera (Willd.) Link, Lamiaceae (Gumma, Dron puspi): Juice of leaves and tender shoots is applied externally in burns. Juice of leaves and flower is used in cough, fever and jaundice. Boiled tender shoots with a pinch of common salts mix thoroughly and used as appetizer.

Mallotus philippinensis (Lam.) Mull. Arg., Euphorbiaceae (Sindure): Decoction of red powdered seeds used orally along with mild hot water to expel tapeworm from stomach. Boiled bark powder mixed in fruit pulp juice of bel and used in an empty stomach to cure diarrhea and dysentery.

Mangifera indica L., Anacardiaceae (Aamp): Bark decoction along with small (0.2 gm.) lime powder given to the children (under 5 years) control chronic diarrhea. Boiled unripe fruit along with salt is used to cure sunstroke.

Melia azedarach L., Meliaceae, (Bakain): Decoction of bark orally used along with water in empty stomach to treat diarrhea.

Mentha spicata L., Lamiaceae, (Pudina): Leaves decoction is used to cure throat infection and indigestion. Leaves and tender shoots are crushed to prepare sarbat and taken to overcome thirst and save from sunstroke.

Mimosa pudica, L., Mimosaceae, (Lajjawati): Root poultice made after boiling of roots and applied over cuts and wounds.

Moringa oleifera Lam., Moringaceae, (Sahijan, Shitalchini): Tender fruit is used as vegetable. Leaf poultice applied in glandular swelling. Seeds are used as heart tonic.

Musa paradisiaca L., Musaceae, (Kera): Sap of rhizome is mixed with sugar and used in internal inflammation.

Myrica esculanta Buch- Ham-ex D. Don, Myricaceae, (Kaphal): Bark decoction is used to cure diarrhea, dysentery and chronic bronchitis.

Nicotiana tobacum L., Solanaceae, (Surti): Warmed leaves are placed on swollen areas of scrotum and testes. This helps to reduce swelling of scrotum and testes.

Nyctanthes arbor-tristis, L., Oleaceae, (Parijaat): Juice of leaves is given in fever and rheumatism. Gentle warm leaf decoction is applied in sciatica.

Ocimum basilicum L., Lamiaceae, (Gathiwan): Filtered juice of leaf is taken orally for cough, cold and feeling higher level of heat inside the body. Fresh leaf juice (2-4 drops) is put inside the ear for wounds or ear pain.

Ocimum tenuiflorum L., Lamiaceae, (Tulsi): Juice of leaves along with a cup of curd is taken early in the morning to reduce blood pressure. Oral use of filtered leaf juice cure cough, cold and increased the heat inside the body.

Oxalis corniculata L., Oxalidaceae, (Chariamilo): Decoction of whole plant parts is given in indigestion and increases appetite.

Phyllanthus amarus Schumacher & Thonn., Euphorbiaceae (Bhumi amala): Entire plant parts along with fruits are used in fever, cold, cough, bronchitis, anaemia and skin diseases. It is one of the most important herbal medicines for jaundice.

Phyllanthus emblica L., Euphorbiaceae (Amala): Bark juice orally used in dysentery. Leaf juice is used in constipation. Fruit is used in indigestion and work as appetizer. Powder of dried fruit is one the most important ingredient of famous 'TRIPHALA'.

Piper cubeba L.F., Piperaceae, (Thulo pipila): Fruits are used as condiment. Oral use of dried fruit powder along with mild hot water work as appetizer, cardio tonic and anti-inflammatory

Piper longum Roxb., Piperaceae (Ban pipila): Fruit powder along with curd is given for treatment of gasball (bayuGola). Chew of one roasted fruit cure chronic cough.

Psidium guajava L., Myrtaceae (Amba, Amrood): Ripe or unripe fruit is used to cure stomach disorders and constipation. Fried fruit is used to cure fever, cough or cold.

Punica granatum L., Punicaceae (Anar): Decoction of fruit bark mixed with bark of jamuno is useful in diarrhea and dysentery.

Ricinus communis L., Euphorbiaceae (Ander): Leaf juice is applied on skin burn, fever, asthma, bronchitis, dysentery and jaundice. Leaf paste is used to cure headache. Seeds are used in liver complaints, piles, constipation, arthritis and nerve related disease. Oil extracted from seeds is used in leprosy, constipation and skin eruption.

Smilax macrophylla Roxb., Liliaceae (Kukurdaino): Root juice is used against rheumatism and bloodless dysentery. Tender shoots are used as vegetable.

Tamarindus indica L., Mimosaceae, (Imali): Leaves are sour and its paste is useful in reducing inflammatory swellings. Decoction of root bark is used in diarrhea, asthma and ulcers.

Terminalia bellirica (Gaertn.) Roxb., Combretaceae (Barro): Fruits are one of the most important part of ayurvedic medicine 'TRIPHALA'. Powdered fruits decoction is given to cure cough, cold, fever, diarrhea, bleeding from gums and eye disease.

Terminalia chebula Retz, Combretaceae (Harro): Powder of fruit is applied in cough, fever and eye disease. It is one of the important ingredient of 'TRIPHALA'.

Thevetia peruviana (Pers.) K. Schm., Apocynaceae (Karbir, Kaner): Juice of hot leaves are useful in earache and wounds.

Tinospora sinensis (Lour.) Merr., Menispermaceae (Gurjo): Stem powder and juice is used orally along with water in diabetes, bodyache and as heart tonic.

Vitex negundo L., Verbenaceae (Simali): Juice of tender shoot and young leaves are put inside the nostrils to cure sinusitis. Juice of leaves is dropped inside the ear for ear pain or wounds. Crushed leaf poultice is applied to cure headache, sinusitis and neck gland sores.

Woodfordia fruticosa (L.) Kurz, Lythraceae (Dhayaro): Dried flowers powder along with curd is used in blood dysentery.

Xanthoxylum aromatum S Dc., Rutaceae (Timur): Fruits and their powder are used to treat colds and bronchial problems. The fruits are used as spice.

Zingiber officinale (Willd.) Roscoe, Zingiberaceae (Aduwa): Rhizome is used as spice. Juice of rhizome is given in cold, cough, asthma, constipation, and indigestion, inflammation of stomach, tonsillitis, arthritis jaundice, low blood pressure and bad smelling of mouth. Dried rhizome is called 'suntho' used as an important ingredient of ayurvedic tea.

Zizyphus mauritiana Lam., Rhamnaceae (Bayar): Root decoction is used in fevers and its powder is applied to old

wounds and ulcers. Fruits are useful in skin diseases and increase appetite.

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